Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A platform for computer processing, connectable to an external communication network and a storage network and comprising:

a plurality of computer processors connected to an internal communication network;

configuration logic to define and establish (a) a virtual local area communication network over the internal network, wherein each computer processor in the virtual local area communication network has a corresponding virtual MAC address and the virtual local area network provides communication among a set of computer processors but excludes the processors from the plurality not in the defined set, and (b) a virtual storage space with a defined correspondence to the address space of the storage network; and

failover logic, responsive to a failure ~~by~~ of a computer processor, to allocate a computer processor from the plurality to replace the failed processor, the failover logic including logic to assign the virtual MAC address of the failed processor to the processor that replaces the failed processor, logic to assign the virtual storage space and defined correspondence of the failed processor to the processor that replaces the failed processor, and logic to reestablish the virtual local area network to include the processor that replaces the failed processor and to exclude the failed processor.

2. (original) The platform of claim 1 wherein the configuration logic establishes virtual interfaces to define software communication paths among processors of the virtual network and wherein the failover logic includes logic to establish virtual interfaces from the processors in the virtual network to the processor that replaces the failed processor.

3. (original) The platform of claim 1 wherein the configuration logic establishes a second virtual local area network from a second set of computer processors and a second virtual storage space with a defined correspondence to the storage network address space and wherein the failover logic causes the processor replacing the failed processor to inherit the virtual local area network and the virtual storage personality of the failed processor.

4. (currently amended) A method of computer processing in a platform having a plurality of computer processors connected to an internal communication network, comprising:

defining and establishing a virtual local area communication network over the internal network, in which each computer processor in the virtual local area communication network has a corresponding virtual MAC address and the virtual local area network provides communication among a set of computer processors but excludes the processors from the plurality not in the defined set;

defining and establishing a virtual storage space with a defined correspondence to the address space of the storage network; and

in response to a failure by a computer processor, allocating a computer processor from the plurality to replace the failed processor, including assigning the virtual MAC address of the failed processor to the processor that replaces the failed processor, assigning the virtual storage space and defined correspondence of the failed processor to the processor that replaces the failed processor, and reestablishing the virtual local area network to include the processor that replaces the failed processor and to exclude the failed processor.

5. (original) The method of claim 4 wherein when establishing a virtual local area network virtual interfaces are established to define software communication paths among processors of the virtual network and when a processor replaces a failed processor virtual interfaces are established to the processor replacing the failed processor.

6. (original) The method of claim 4 wherein a second virtual local area network is established with a second set of computer processors and a second virtual storage space with a defined correspondence to the storage network address space and when a processor fails the processor replacing the failed processor inherits the virtual local area network and the virtual storage personality of the failed processor.

7. (currently amended) A system for providing a service addressed by an IP address, comprising:

at least two computer processor[[s]] each including logic to provide the service; and

cluster logic for receiving a request message for the service, the messages having the IP address, and for distributing the request to one of the at least two computer processors having logic to provide the service.

8. (currently amended) The system of claim 7 wherein the logic for distributing includes logic for analyzing the source information in an incoming message ~~in~~ for determining which processor should service the message.

9. (currently amended) A method of providing a service addressed by an IP address, comprising:

including logic to provide the service on each of at least two computer processor[[s]]; and

receiving a request message for the service, the messages having the IP address, and for distributing the request to one of the at least two computer processors having logic to provide the service.

10. (original) The method of claim 9 wherein source information of an incoming message is analyzed to determine which processor should service the message.

Remarks/Arguments

Claims 1 - 10 are pending in this application. Claims 1, 4, 7, 8 and 9 have been amended.

Applicant gratefully acknowledges recognition of allowable subject matter in claims 3 and 6.

The specification has been amended to correct typographical and clerical errors. It is believed no new matter has been added.

Claims Rejections – 35 USC § 102

1. Claims 1, 4, 7, 9, 8 & 10 have been rejected under 35 U.S.C. 102(e) as being anticipated by Hebert (U.S. Patent Number 6,728,780).

Hebert discloses the use of redundant network interface cards (NIC) to provide a reliable network connector. Upon a failure, the stand-by NIC adopts the MAC address of the failed NIC. The mechanism as stated in Hebert includes "the addition of a redundant, secondary, network connection which may be utilized in the event of a failure of a primary connection. By utilizing an Application layer mechanism which configures a secondary network connection with dummy parameters, monitors the primary network connection, automatically detects a failure in the primary connection, and switches to the secondary connection in a short period of time," [Col. 2, lines 35-42]. Hebert's failover mechanism for a network node which includes a first network interface and a second network interface only addresses intra-node or processor connection failures. It does not disclose any failover methods or mechanisms for inter-node or processor failures.

Unlike the Hebert reference, the recited invention is directed specifically to addressing inter-processor or server failures. The claimed platform is a virtual local area network. Each processor in the virtual local area network has a personality defined by its virtual networking including at least a corresponding virtual MAC address and a virtual storage space with a defined correspondence to the address space of the storage network.

The recited invention includes logic that moves the personality of a failed processor to another and includes the ability to map all devices associated with the failed processor to the healthy processor. In particular, as stated in claim 1, *failover logic allocates a computer*

processor from the plurality of processors to replace the failed processor, and includes logic to assign the virtual MAC address of the failed processor to the processor that replaces the failed processor, logic to assign the virtual storage space and defined correspondence of the failed processor to the processor that replaces the failed processor, and logic to reestablish the virtual local area network to include the processor that replaces the failed processor and to exclude the failed processor.

In contrast, Hebert teaches only failover to a standby NIC. Hebert does not recognize, teach or suggest virtualization of a local area network, the personality associated with the processors in the virtual local area network such as the virtual MAC address, failover logic to another processor, and assignment of the personality of a failed processor to a substitute processor. Hebert is completely silent regarding host processor failures or standby host processors. There is no teaching or suggestion of any failover logic in Hebert that allows for the allocation of a replacement computer processor from a plurality of computer processors much less logic to assign the virtual MAC address of the failed processor, and the virtual storage space of the failed processor to the replacement server. At least for these reasons the independent claims 1 and 4 and dependent claims 2, 3, 5 and 6 should be found allowable. The dependent claims recite further distinctions as well. For example, in claims 2 and 5 the failover logic includes logic to establish the virtual interfaces from the processors in the virtual network to the processor that replaces the failed processor. Claims 3 and 6 have been recognized to contain allowable subject matter.

As per claims 7 – 10, Hebert discloses the use of one IP address for each host. In Col. 5, lines 16-18, Hebert is stating what is known in the art, i.e., each host connected to a network has an assigned logical address or Internet Protocol (IP) address. Hebert does not disclose allowing multiple processors having one IP address.

Unlike Hebert, in claims 7-10 the recited invention is directed specifically to provide a set of services offered by a cluster of processors to clients. These services can be provided by two or more different processors that are all addressed using one IP address. In particular, the recited invention per amended claim 7 includes:

A system for providing a service addressed by an IP address, comprising:

at least two computer processor[[s]] each including logic to provide the service; and

cluster logic for receiving a request message for the service, the messages having the IP address, and for distributing the request to one of the at least two computer processors having logic to provide the service.

There is no teaching or suggestion in Hebert to allow multiple processors to have one IP address. In fact, by disclosing the use of one IP address for each host, Hebert teaches away from the recited invention.

Thus, claims 7–10 should be found allowable.

Claims Rejections – 35 USC § 103

5. Claims 2 & 5 have been rejected under 35 U.S.C. 103(a) as being anticipated by Hebert (U.S. Patent Number 6,728,780).

As discussed hereinbefore, Hebert does not teach or suggest the recited invention which is directed to methods for providing failover capability in the event a processor fails and as such provides for inter-processor failover mechanisms.

As dependent claims 2 and 5 provide additional distinctions as discussed above, they should be found allowable.

CONCLUSION

For the reasons stated above, we believe that all the claims are allowable and therefore ask the Examiner to allow them to issue.

Please apply any charges not covered, or any credits, to Deposit Account No. 08-0219.

Respectfully submitted,

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